Editor in Chief

*Jurnal Gizi Indonesia* (The Indonesian Journal of Nutrition)

May 19th, 2023

Dear Editor in Chief,

We are pleased to submit an original article entitled “**Liprotide-Encapsulated Vitamin D3 Modulates Circulated PTH Levels and Improved Bone Microstructure,**” which I would like to submit for publication in the Jurnal Gizi Indonesia (The Indonesian Journal of Nutrition).

Vitamin D (25(OH)D) is a fat-soluble vitamin that is essential for bone mineralization and other metabolic processes in the human body. A protein-lipid complex (liprotide) can be used as a shell to increase vitamin D stability, bioavailability, and can also serve as a delivery system for the transport of vitamin D to its intended site. Although several studies have documented the optimization strategy of liprotide as a delivery system, little attention has been paid to utilizing liprotide as a delivery system for vitamin D and evaluating its functional activity.

In this paper, we investigate the effect of encapsulation of vitamin D3 using a lipid-protein complex named liprotide on rats' circulated PTH levels and bone microstructure. Our study showed that vitamin D-deficient model rats (VD-Ca) that were supplemented with vitamin D3 had a significant decrease in serum PTH levels (p<0.001) and improved bone microstructure (p<0.05) compared to the untreated group (K-). Vitamin D encapsulated with liprotide (LVD3) demonstrated better bioactivity than the free-form vitamin D (p<0.05). We hypothesize that encapsulation with a lipid-protein system enhances vitamin D stability and thus improves its biological activity. We believe our findings add indispensable knowledge about the potential of the lipid-protein complex as an encapsulation material for fat-soluble vitamins and will interest the readers of your journal.

We declare that the manuscript is original, has not been published before, and is not currently being considered for publication elsewhere. We have no conflict of interest associated with this publication and no significant financial support for this study.

I am looking forward to your evaluation of the manuscript.

With kind regards,

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